

VOL'F, E.; TOLKACHEV, S.S.; KOZHINA, I.I.

Roentgenographic investigation of titanium and vanadium oxides. Vest.
LGU 14 no.10:87-92 '59. (MIRA 12:6)
(Titanium oxides) (Vanadium oxides)

5 (4)

AUTHORS:

Vol'f, E., Tolkachey, S. S.,
Kozhina, I. I.

SOV/54-59-2-13/24

TITLE:

X-Ray Investigation of Titanium (II)- and Vanadium (II) Oxides
(Rentgenograficheskoye issledovaniye zakisey titana i vanadiya)

PERIODICAL:

Vestnik Leningradskogo universiteta. Seriya fiziki i khimii,
1959, Nr 2, pp 87-92 (USSR)

ABSTRACT:

The lower oxides TiO and V_2O_3 to be investigated were obtained by vacuum coagulation from powdery hydrated titanium + TiO_2 at 1300° , and from hydrated vanadium + V_2O_5 at 1600° . The V_2O_5 used was of the KhCh type. The analysis of the preparations was carried out by determining the increase in weight at the oxidation to TiO_2 and V_2O_5 , respectively. For the qualitative evaluation of the extension of the homogeneous ranges as a preliminary investigation, powder diagrams were prepared by means of RPK-2 cameras. The samples were turned during photographing. The diagrams are shown in figures 1 and 2. The diagram of the vanadium (II) oxides shows that the vanadium (II)

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X-Ray Investigation of Titanium (II)- and
Vanadium (II) Oxides

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oxide has a wide homogeneous range, and that only at $\text{VO}_{1.32}$ new lines appear which belong to the V_2O_3 . There are no intermediate phases between vanadium (II) oxide and V_2O_3 . The lower limit of the vanadium (II) oxide as a homogeneous phase could be determined at $\text{VO}_{0.80}$ (upper limit at $\text{VO}_{1.28}$). In the titanium-oxygen system, $\text{TiO}_{0.40}$ - $\text{TiO}_{0.60}$ proved to be an independent phase, in the range $\text{TiO}_{0.83-90}$ two phases existed (TiO and $\text{TiO}_{0.48}$). The upper limit of the homogeneous range of the titanium (II) oxide was determined at $\text{TiO}_{1.20}$ (lower limit at $\text{TiO}_{0.89}$). The lattice parameters were determined by precision roentgenograms by means of the same camera RPK-2, taken according to the asymmetric method by Straumanis. The values of these parameters depending on the composition and production temperature of the preparations are compiled in table 1 (for the vanadium (II) oxides) and table 2 (for

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X-Ray Investigation of Titanium (II)- and
Vanadium (II) Oxides

SOV/54-59-2-13/24

the titanium (II) oxides) (also in figures 3, 4). The figures clearly show that the lattice parameter of the vanadium (II) oxide increases with increasing oxygen content, whereas the parameter of the titanium (II) oxide decreases with increasing oxygen content. The value of the lattice parameter found for $\text{VO}_{1.0}$ (4.069 Å) corresponds to the values found by Mathewson (Ref 8) and Rostoker (Ref 10), for titanium (II) oxide it lies near the value found by Anderson (Ref 3) (4.182 Å). There are 4 figures, 2 tables, and 10 references, 4 of which are Soviet.

SUBMITTED: July 1, 1958

Card 3/3

~~TOLKACHEV, S.S.; STROGANOV, Ye.V.; KOZHINA, I.I.~~

Structure of lead hydroxide; a preliminary report [with summary
in English]. Vest. LGU 13, no.16:134-139 '58. (MIRA 11:11)
(Lead hydroxides)

SOV/54-58-3-16/19

AUTHORS: Tolkachev, S. S., Stroganov, Ye. V., Kozhina, I. I.

TITLE: The Structure of Lead Hydroxide (Preliminary Communication)
(Struktura gidrata okisi svintsa - (Predvaritel'noye
soobshcheniye))

PERIODICAL: Vestnik Leningradskogo universiteta. Seriya fiziki i khimii,
1958, Nr 3, pp 134-139 (USSR)

ABSTRACT: The crystal structure of metal hydroxides until now has only
little been investigated because in general they are ob-
tained in the form of amorphous precipitates. Lead hydroxide
is able to dissolve in alkaline solutions and to crystallize
from these solutions. In the present work the crystal struc-
ture of lead mono-hydroxide was found. Because of data ob-
tained from radiographic investigations the formula $\text{Pb}(\text{OH})_2$
must be ascribed to the crystal hydrate $\text{PbO} \cdot \text{H}_2\text{O}$. In figure²
3 the structure of $\text{Pb}(\text{OH})_2$ is presented. In the crystalline
form of $\text{Pb}(\text{OH})_2$ the chemical bond is determined mainly by
the interaction between the lead ion and the hydroxyl ions.

Card 1/2

The Structure of Lead Hydroxide
(Preliminary Communication)

SOV/54-58-3-16/19

Nevertheless also the hydrogen and hydroxyl bonds play a considerable role in the structure. On the base of some information gathered and according to the approximation usually employed in crystallochemistry the hydroxyl ion may be represented by two spheres (Fig 4). This corresponds to the penetration of the proton into the sphere which gives an approximation of the oxygen ion (O^{2-}) within a distance of 1.13 Å from its center as well as of the domain of increased electron density formed around the proton. There are 5 figures and 3 references, 3 of which are Soviet.

SUBMITTED: March 24, 1958

Card 2/2

PHASE I BOOK EXPLOITATION 1179

Kozhina, Inna Ivanovna, Stroganov, Yevgeniy Vasil'yevich, and Tolkachev, Sergey Sergeyevich

Rukovodstvo k laboratornym rabotam po strukturnoy kristallografii, [ch.] II.
(Manual for Laboratory Work in Structural Crystallography, pt. 2)
[Leningrad] Izd-vo Leningr. universiteta, 1958. 150 p. 2,000 copies printed.

Sponsoring Agency: Leningrad. Universitet.

Resp. Ed.: Tolkachev, S.S.; Ed.: Shchemeleva, Ye.V.; Tech. Ed.: Vodolagina, S.D.

PURPOSE: This book is intended for students of vuzes whose programs include the study of X-ray analysis.

COVERAGE: This second volume of the "Manual for Laboratory Work in Structural Crystallography" is devoted to problems concerning the use of X-rays in crystallographic analysis and gives a theoretical basis for the interaction of X-rays with a substance.

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Manual for Laboratory Work in Structural (Cont.)

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AVAILABLE: Library of Congress

Card 5/5

TM/fal
2-17-59

TOLKACHEV, S. S.

137-58-1-1978

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 1, p 265 (USSR)

AUTHORS: Stroganov, Ye. V., Tolkachev, S. S.

TITLES: A Graphic Method of Indexing Crystals of the Higher and Middle Syngonies (O graficheskom inditsirovanii kristallov vysshey i sredney singoniy)

PERIODICAL: Uch. zap. LGU, 1957, Nr 211, pp 230-234

ABSTRACT: The Bjorstrom method of indexing x-ray photographs of crystals of the higher and middle syngonies is set forth and developed (Bjorstrom, T. B., Z. Phys. 1931, Nr 69, p 346. Comparison of this method and the methods usually employed is made.

A. B. -Z.

1. Crystals--Indexes--Processes

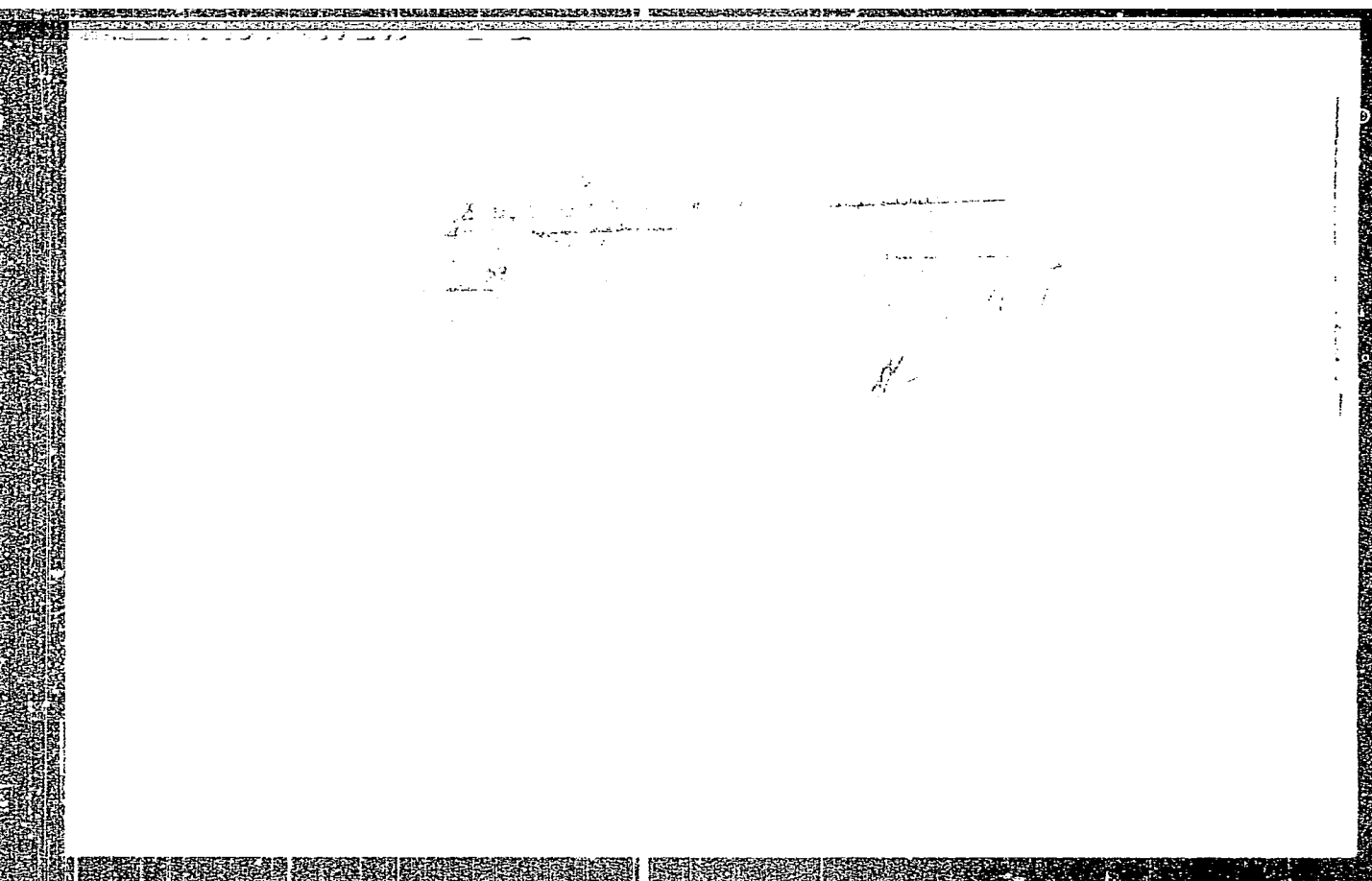
Card 1/1

TOL'ACHIV, S.S.

Structure of $B-PbO_2$ [with summary in English]. Vest. IGU 13.
no.4:152-153 '58. (MIRA 11:4)
(Lead oxides) (Crystallography)

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CIA-RDP86-00513R001756110005-5



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CIA-RDP86-00513R001756110005-5"

TOLKACHEV

USSR/Physical Chemistry - Crystals

B-5

Abs Jour : Referat Zhur - Khimiya, No 1, 1958, 191

Author : Ye.V. Stroganov, S.S. Tol~~kachev~~.

Inst : Leningrad State University.

Title : Graphical Indicating of Crystals of Highest and Middle
Synгонies.

Orig Pub : Uch. zap. LGU, 1957, No 211, 230-234

Abstract : The advantages of indicating powder graphs according
to the curves of Bjorstrom (Bjorstrom T.B., Z. Phys.,
1931, 69, 346) as compared with the curves of Hull and
Devey (Hull A.W., Devey W.P., Phys. Rev., 1921, 17,
549) are discussed.

Card 1/1

AUTHOR: Tolkachev, S. S.

54-1-15/17

TITLE: The Structure of β -PbO₂ (Struktura β -PbO₂)

PERIODICAL: Vestnik Leningradskogo Universiteta Seriya Fiziki i Khimi (Nr 1), 1958, Nr 4,

ABSTRACT: The structure of lead dioxide of the type rutile-cassiterite, which the author calls β -PbO₂ because of its analogy to β -MnO₂, has been investigated already several times (refs. 2,3,4,5). Nevertheless the parameter of oxygen has as yet not been proved experimentally probably because all radiographical investigations were carried out with powders. In his paper on the determinations of the structure of α -PbO₂ (ref. 6) the author had said that in the theoretical calculation of reflex intensities the modifications of the oxygen parameters are distinctly noticable. Consequently, the experimental material makes it possible, in the case of a sufficient number of reflexes, to find the amount of interatomic distance also for other structures of lead dioxide. This is of interest also because published works refer to the differences of inter-

Card 1/2

54-1-15/17

The Structure of β -PbO₂

atomic distances in the coordination octahedron of this type of structure (ref. 7). The author synthesized the monocrystals of β -PbO₂ by hydrothermal method. The size of the elementary cell was determined according to the powder radiogram β -PbO₂ which was made in the chamber VRS-3LCU (ref. 11). It was shown that all interatomic distances in the coordination octahedron are equal. There are 1 figure and 12 references, 4 of which are Slavic.

SUBMITTED: December 5, 1957

AVAILABLE: Library of Congress

1. Lead dioxide-Structural analysis

Card 2/2

TOLKACHEV S S
KOZHINA, Inna Ivanovna; STROGONOV, Yevgeniy Vasil'yevich; TOLKACHEV, Sergey
Sergeyevich; SHCHEMLINVA, Ye.V., red.; VODOLAGINA, S.D., *tekhn.red.*

[Manual for laboratory work in structural crystallography]
Rukovodstvo k laboratornym rabotam po strukturnoi kristallografi.
[Leningrad] Izd-vo Leningr. univ. Vol.1. 1957. 105 p. (MIRA 11:3)
(Crystallography)

MELIKHOV, V. (Kursk); GRINKEVICH, S. (Novosibirskaya oblast'); TOLKACHEV, V.
(Astrakhan'); KUZNETSOV, I. (Blagoveshchensk); ALEKSANDROV, A.
(Brestskaya oblast')

About good people. Pozh.delo 8 no.3:21 Mr 162. (MIRA 15:4)
(Fire prevention)

L 07078-67 EMT(1)/EMT(m)/EMP(j) RM
ACC NR: AP6025952

SOURCE CODE: UR/0051/66/021/001/0036/0044

AUTHOR: Borisevich, N. A.; Tolkachev, V. A.

36
B

ORG: none

TITLE: Dependence of the quantum fluorescence output of molecules in rarefied vapors on the energy of the exciting quantum in various electron absorption bands

SOURCE: Optika i spektroskopiya, v. 21, no. 1, 1966, 36-44

TOPIC TAGS: quantum yield, absorption band, fluorescence, anthracene

ABSTRACT: A study is made of the dependence of the absolute quantum fluorescence of vapor 3,6-tetramethyldiamino- and 3,6-diaminophthalimides and anthraquinone on the frequency of the excitation radiation in various electron bands. The different dependence of the quantum output on the reserve of vibrational energy in these bands is also considered. The absolute quanta of fluorescence output were measured by a method developed earlier. The standards for measurement were alcohol solutions of 3-amino- and 3,6-tetramethyldiaminophthalimide and crystals of anthracene. The measurements agree well with the data of earlier work except in the extreme long-wave region of the spectrum, which includes anti-Stokes excitation. The results for output and absorption spectra are plotted in curves. Also plotted is the effect of the excitation quantum energy and temperature on the quantum fluorescence output, as well as the dependence of the lat-

UDC: 535.371(206.3)

Card 1/2

L 07078-67
ACC NR: AP6025952

ter on the effective excitation energy. The dependence of the probability of radiation-
less transitions on the vibrational temperature of the excited vapor molecules in vari-
ous electron absorption bands is shown. Orig. art. has: 4 figures, 3 formulas.

SUB CODE: 20/

SUBM DATE: 27Jun64/

ORIG REF: 017/

OTH REF: 003

Card 2/2 LC

I. 16091-66 EWT(1)/EWT(m)/EWP(J)/T
ACC NR: AF5027662

IJP(c) RM
SOURCE CODE: UR/0051/65/019/005/0692/0697

AUTHOR: Tolkachev, V. A.

ORG: none

TITLE: On the time characteristics of the fluorescence of rarefied vapors of complex molecules 21, 44, 55

SOURCE: Optika i spektroskopiya, v. 19, no. 5, 1965, 692-697

TOPIC TAGS: fluorescence, excited state, complex molecule, statistic analysis, rarefied gas

ABSTRACT: The author obtained the following expression for the average life span of the excited state of the fluorescence of rarefied vapors of complex molecules 21, 44 for the nonstationary regime where E is the energy of the nonexcited molecule, 55

$$\frac{\int_{-\infty}^{\infty} \int_{-\infty}^{\infty} \rho(E) B(E, \nu) (I(E + h\nu) + d(E + h\nu)) u_{\nu}(t) (t' - t) e^{-\frac{t' - t}{\tau(E + h\nu)}} dE dt}{\int_{-\infty}^{\infty} \int_{-\infty}^{\infty} \rho(E) B(E, \nu) (I(E + h\nu) + d(E + h\nu)) u_{\nu}(t) e^{-\frac{t' - t}{\tau(E + h\nu)}} dE dt}$$

UDC: 535.371

Card 1/2

L 16091-66

ACC NR: AP5027663

$\rho(E)$ the molecular distribution function, and $B(E, \nu)$ the Einstein coefficient.
For the stationary regime the formula obtained is

$$\frac{\int \rho(E) B(E, \nu) \tau(E + h\nu) dE}{\int \rho(E) B(E, \nu) dE}$$

Analogously formulas were obtained for the damping time of the fluorescence of rarefied vapors of complex molecules for stationary and nonstationary regimes. These quantities were independently different and for the nonstationary regime they depended on time. The duration of the fluorescence of rarefied vapors measured on phase fluorometer did not coincide with the above mentioned quantities, and conditions for closer incidence were obtained. The duration of the excited state was found in terms of damping time under the assumption of the absence of exchange of energy of nondamping collision. Based on the Stern-Folmer formula, an improved formula for the statistical analysis of the damping mechanism and a life-span estimation of the excited state in terms of damping time were obtained. Orig. art. has: 1 figure and 21 formulas.

SUB CODE: 20,12/ SUBM DATE: 15Jul64/- ORIG REF: 008/ OTH REF: 002

Card 2/2 SYN

TOLKACHEV, V.A.; MOLIN, Yu.N.; CHKHEIDZE, I.I.; BUBEN, N.Ya.;
VOYEVODSKIY, V.V.

Electron paramagnetic resonance spectrum of frozen irradiated
benzene. Dokl. AN SSSR 141 no.4:911-912 D '61. (MIRA 14:11)

1. Institut khimicheskoy fiziki AN SSSR i Institut khimicheskoy
kinetiki i goreniya Sibirskogo otdeleniya AN SSSR. 2. Chlen-kor-
respondent AN SSSR (for Voyevodskiy).
(Benzene—Spectra)

42651

S/062/62/000/011/016/021
B117/B101

11. 1510
AUTHORS:

Avramenko, L. I., Buben, N. Ya., Kolesnikova, R. V.,
Tolkachev, V. A., and Chkheidze, I. I.

TITLE:

EPR study of radicals formed by hydrogen atoms reacting with
benzene

PERIODICAL:

Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh
nauk, no. 11, 1962, 2079-2081

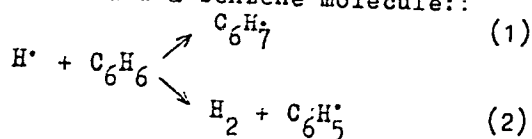
TEXT: The authors analyzed the epr spectra of free radicals formed by
hydrogen atoms reacting with benzene in the gas phase at 20 and 200°C and
frozen out with liquid nitrogen. Experimental conditions: silent
discharge (6000 v, 150 ma), benzene concentration, $\sim 6 \cdot 10^{14}$ molecules
per cm^3 ; hydrogen pressure, 14-15 mm Hg; linear flow rate, 160 cm/sec;
duration, 12-18 min. The epr spectrum of the radicals formed at 20°C
by the reaction $\text{H} \cdot + \text{C}_6\text{H}_6$ is a triplet with a total splitting of 93 ± 5 oe.
In addition each component of the triplet is split into four lines at a
distance of 10 ± 1 oe. This spectrum was identified as the spectrum of

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EPR study of radicals formed...

S/062/62/000/011/016/021
B117/B101

the $C_6H_7^\cdot$ radical. When the reaction temperature is raised up to $200^\circ C$, not only the $C_6H_7^\cdot$ radical is formed, but also radicals of another type - obviously $C_6H_5^\cdot$ - which show a singlet. Their relative amount increases as the temperature is raised. Hence the two primary reactions may occur between hydrogen atoms and a benzene molecule::



it is assumed that at room temperature reaction (1) mainly occurs and at higher temperatures reaction (2) takes place. The weak lines detected on the edges of all spectra were attributed to the background, of which the spectrum analysis took no account and which therefore requires a separate investigation. There are 2 figures.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences USSR)

SUBMITTED: June 15, 1962
Card 2/2

TOLKACHEV, V.A.; CHKHEIDZE, I.I.; BUBEN, N.Ya.

Electron paramagnetic resonance spectra of phenyl radicals.
Zhur.strukt.khim. 3 no.6:709-711 '62. (MIRA 15:12)

1. Institut khimicheskoy fiziki AN SSSR.
(Benzene—Spectra)
(Radicals (Chemistry)—Spectra)

L 18088-63 EWP(j)/EWT(1)/EPF(c)/EWT(m)/FCC(w)/BDS AFFTC/ASD/IJP(c)
 S/2941/63/001/000/0016/0021
 ACCESSION NR: AT30C2189 Pc-4/Pr-4 RM/WW/MAY

70

AUTHORS: Tolkachev, V. A.; Borisevich, N. A.

TITLE: Fluorescence yield of complex molecules in vapor phase

SOURCE: Optika i spektroskopiya; sbornik statey. v. 1: Lyuminestsentsiya.
 Moscow. Izd-vo AN SSSR, 1963, 16-21

TOPIC TAGS: fluorescence, vapor, transition probability, activation energy

ABSTRACT: In the first part of the study the authors analyzed the temperature dependence of fluorescence yield of complex molecules in their vapor phase. Three arbitrary phthalamides and an aminoatroquinine are considered. Thermal quenching for fluorescence is shown to be weak for excitation in the second absorption band. Also, the rate of decrease in yield with temperature (in the same band) is found to be independent of the frequency of the excitation radiation. In the second part the activation energy is determined for radiationless transitions of the three complex molecules. For 3,6-tetramethyl diamino and 3-dimethylamino-6-aminophthalamide molecules the activation energies are shown

Card 1/2

L-18088-63

ACCESSION NR: AT3002189

to increase with an increase in vibrational temperatures. Orig. art. has: 7
formulas and 7 figures.

ASSOCIATION: none

SUBMITTED: 08May62

DATE ACQ: 19May63

ENCL: 00

SUB CODE: PH

NO REF SOV: 017

OTHER: 002

Card 2/2

L 18734-63 EWT(1)/BDS AFFTC/ASD/HP(c) 3/29/63/001/000/0022/0028
 ACCESSION NR: AT9002190

AUTHORS: Tolkachev, V. A.; Borisevich, N. A.

TITLE: Mean energy of excited vapor molecules and frequency of absorbed radiation

SOURCE: Optika i spektroskopiya; sbornik statey. v. 1: Lyuminesentsiya. Moscow, Izd-vo AN SSSR, 1963, 22-28

TOPIC TAGS: vapor, absorption, mean energy, transition, radiation

ABSTRACT: The relation between the mean energy of excited vapor molecules and the frequency of absorbed radiation has been obtained. This is given in equation (1):

$$\Delta E' = \bar{E}_1^* - \bar{E} - h\nu$$

where h = Planck's constant; ν = frequency; \bar{E} = average energy of molecule in ground state; \bar{E}_1^* = mean energy of excited vapor molecule; $\Delta E' = k \frac{1}{2} \ln x_\nu$, with T = temperature, k = Boltzmann constant, x_ν = absorption coefficient. \bar{E}_1^* is given by equation (2):

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L 18734-63
ACCESSION NR: AT3002190

$$\bar{E}_1 = \frac{\int (E + h\nu) \cdot B(E, \nu) \cdot \rho(E) \cdot dE}{\int B(E, \nu) \cdot \rho(E) \cdot dE} = \frac{E \cdot B(E, \nu)}{B(E, \nu)} + h\nu$$

where $B(E, \nu)$ = Einstein coefficient. Results are tabulated and plotted for three types of molecules: 3-aminophthalamide; 3-6-tetramethyldiaminophthalamide; and β -naphthalamine. Experimentally it is found that the effective excitation energy in the Stokes region changes linearly with frequency of excitation radiation and remains constant through transition into the anti-Stokes excitation. Orig. art. has: 15 formulas and 6 figures.

ASSOCIATION: none

SUBMITTED: 16Jun62

DATE ACQ: 19May63

ENCL: 00

SUB CODE: PH

NO REF SOV: 017

OTHER: 000

Card 2/2

L 12716-63

ENP(j)/EPF(c)/EWT(m)/BDS

AFFTC/ASD Pc-4/Pr-4

RM/JFW/WW

S/0062/63/000/006/1143/1144

ACCESSION NR: AP3002302

AUTHOR: Buben, N. Ya.; Tolkachev, V. A.; Chkheidze, I. I.

TITLE: Peculiarities in the radiolysis of phenol and benzyl chloride

SOURCE: AN SSSR. Izv. Otdeleniye khimicheskikh nauk, no 6, 1963, 1143-1144

TOPIC TAGS: radiolysis, phenol, benzyl chloride, electron paramagnetic resonance, hydroquinone, phenoxy, phenyl radicals, benzyl

ABSTRACT: Electron paramagnetic resonance studies showed that whereas in the radiolysis of a series of aromatic compounds radicals of the cyclohexadienyl type are formed, irradiation of phenol, hydroquinone, and benzyl chloride does not give rise to such radicals. EPR spectra showed that irradiated phenol contained phenoxy and phenyl radicals, and benzyl chloride, benzyl and benzyl chloride radicals. The mechanism of radiolysis of these compounds must differ from that of alkyl benzenes and, for phenol, involve cleavage of O-H and C-OH bonds.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics, Academy of Sciences SSSR)

SUBMITTED: 06 Mar 63

DATE ACQ: 16 Jul 63

ENCL: 00

SUB CODE: 00

NO REF SOV: 002

OTHER: 001

Card 1/1

BUBEN, N.Ya.; TOLKACHEV, V.A.; CHKHEIDZE, I.I.

Radicals formed in low-temperature radiolysis of toluene. Kin.i
kat. 4 no.5:683-687 S-O '63. (MIRA 16:12)

1. Institut khimicheskoy fiziki AN SSSR.

S/250/63/007/002/004/008
A059/A126

AUTHORS: Borisevich, N. A., Tolkachev, V. A.

TITLE: On the quantum yield of fluorescence of vapor molecules

PERIODICAL: Doklady Akademii nauk BSSR, v. 7, no. 2, 1963, 87 - 91

TEXT: The quantum yield of fluorescence can be determined either by measuring under steady conditions the ratio of the number of quanta emitted in unit time to the number of those absorbed in the same time, or by finding the ratio of the number of quanta emitted after excitation has been stopped, to the total number of molecules in the excited state at the moment when excitation is discontinued. These two methods are shown to lead to inconsistent results with regard to the quantum yield of fluorescence of diluted vapors. In general, with diluted vapors, $\gamma_1 \neq \gamma_2$, and the yield γ_1 experimentally found averaged with respect to the distribution $f_1(E^*)$ should be comparable with the energy \bar{E}_1^* averaged with respect to the same distribution. Only in the case of a relatively strict distribution function or when the probabilities f and d are independent of E^* , it may occur that $\gamma_1 \approx \gamma_2$ and $\bar{E}_1^* \approx \bar{E}_2^*$. We obtain

Card 1/2

S/250/63/007/002/004/008
A059/A126

On the quantum yield of...

$$\gamma_1 = \frac{\overline{E}_d^* - \overline{E}_1^*}{\overline{E}_d^* - \overline{E}_f^*} \quad (20)$$

which shows that the quantum yield of vapor fluorescence equals the ratio of the difference between the mean energies of the molecules leaving the excited state without emitting radiation (\overline{E}_d^*) and of all molecules leaving the excited state (\overline{E}_1^*) to the difference between the mean energies of the molecules leaving the excited state without emitting radiation and of those emitting fluorescence (\overline{E}_f^*). Thus, $\gamma_1 = 1$, when $\overline{E}_1^* = \overline{E}_f^*$, and $\gamma_1 = 0$, when $\overline{E}_1^* = \overline{E}_d^*$. Since the fluorescence yield of vapors varies in the range $0 \leq \gamma_1 \leq 1$, either $\overline{E}_d^* \geq \overline{E}_1^* \geq \overline{E}_f^*$ or $\overline{E}_d^* \leq \overline{E}_1^* \leq \overline{E}_f^*$ holds. If a potential barrier exists for the radiationless transitions, the condition $\overline{E}_d^* \geq \overline{E}_1^* \geq \overline{E}_f^*$ should be fulfilled.

ASSOCIATION: Institut fiziki AN BSSR (Institute of Physics, AS BSSR)

PRESENTED: by B. I. Stepanov, academician of the AS BSSR

SUBMITTED: August 11, 1962

Card 2/2

TOLKACHEV, V.A.; BORISEVICH, N.A.

Potential barrier of nonradiative molecular transitions in the gaseous phase. Opt. i spektr. 14 no.3:430-433 Mr '69. (MIA 164)

(Molecular dynamics)

(Quantum theory)

TOLKACHEV, V.A.; BORISEVICH, N.A.

Mean energy of molecules of rarefied fluorescent vapors. Opt.
i spektr. 15 no.3:306-309 S '63. (MIRA 16:10)

TOLKACHEV, V.A.

Effective excitation energy of vapor molecules as dependent on
the frequency of the exciting radiation. Izv. AN SSSR. Ser. fiz.
27 no.4:584-587 Ap '63. (MIRA 16:4)

(Organic compounds--Spectra)

BORISEVICH, N.A.; TOLKACHEV, V.A.

Temperature dependence of the fluorescence yield of vapors of
complex molecules. Izv.AN SSSR.Ser.fiz. 24 no.5:521-524
Mg '60. (MIRA 13:5)

1. Institut fiziki AN BSSR.
(Fluorescence) (Vapors--Optical properties)

TOLKACHEV, V.A.; MIKHAYLOV, A.I.

Nomogram for double integration of paramagnetic resonance signal lines. Prib. i tekhn. eksp. 9 no.6:95-96 H-D '64.

(MIRA 18:3)

1. Institut khimicheskoy fiziki AN SSSR.

ACCESSION NR: AP4011506

S/0051/64/016/001/0171/0174

AUTHOR: Borisevich, N.A.; Gruzinskiy, V.V.; Tolkachev, V.A.

TITLE: Concerning anti-Stokes fluorescence of molecules

SOURCE: Optika i spektroskopiya, v.16, no.1, 1964, 171-174

TOPIC TAGS: molecular fluorescence, anti-Stokes fluorescence, fluorescence excitation, vapor fluorescence, solution fluorescence, fluorescence spectrum, absorption spectrum, 3,6-tetramethyldiaminophthalimide, 3-aminophthalimide

ABSTRACT: It has been demonstrated in some recent papers (I.Ketskemety, J.Dombi and R.Horvai, Acta Phys.Hung.12, No.263, 1960; Ann.Phys.8, 342, 1961; M.N.Alentsev and L.A.Pakhomycheva, Opt.i spektr.12, 565, 1962; Yu.T.Mazurenko, Ibid.13, 854, 1962) that the decrease in the quantum efficiency of fluorescence of solutions under anti-Stokes excitation is connected with inactive absorption. In the present work it is shown, however, that in the case of thoroughly purified substances no decrease of the fluorescence efficiency of vapors and solutions occurs in the anti-Stokes region. The investigated substances were 3,6-tetramethyldiaminophthalimide and 3-aminophthalimide, which have been investigated earlier (B.S.Neporent and N.A.Borisevich, Opt.i

Card^{1/2}

ACC.NR: AP4011506

spektr.1,114,1956; DAN SSSR,94,447,1954; Yu.T.Mazurenko.Ibid.13,854,1962). They were synthesized and then thoroughly purified by repeated recrystallization and sublimation under vacuum at different temperatures. Adequate measures were taken to avoid contamination of any kind. The solution absorption spectra were recorded by means of an SF-4 spectrophotometer; the absorption of the vapors by means of a set-up assembled about an SF-4 spectrophotometer. The fluorescence spectra were measured by means of a high sensitivity photoelectric set-up. The absorption and fluorescence spectra in the approximate range from 18 000 to 26 000 cm^{-1} are reproduced in figures. In all cases the excitation function F_{λ} is linear. It is inferred that the "apparent" anti-Stokes decrease in fluorescence efficiency reported by other authors was connected with the presence of impurities that affected the weak absorption of the host in this spectral region. "The authors are grateful to T.E.Kolosova for synthesis and purification of the investigated substances." Orig.art.has: 2 figures

ASSOCIATION: none

SUBMITTED: 24May63

DATE ACQ: 14Feb64

ENCL: 00

SUB CODE: PH

NR REF SOV: 015

OTHER: 001

Card 2/2

TOLKACHEV, V.A.; BORISEVICH, N.A.

Effective excitation energy of molecules of rarefied vapors
in various electron absorption bands. Opt. i spektr. 18 no.3:
388-395 Mr '65. (MIRA 18:5)

ACC NR: AP6032493

SOURCE CODE: UR/0413/66/000/017/0045/0045

INVENTOR: Tolkachev, V. F.

ORG: none

TITLE: Meter of electric pulse recurrence rate. Class 21, No. 185410

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 17, 1966, 45

TOPIC TAGS: pulse recurrence, frequency converter, frequency meter, pulse shaper, pulse generator, capacitor, hyperbolic pulse, memory capacitor

ABSTRACT: The proposed meter of electric-pulse recurrence rate contains a frequency-to-voltage converter and a measuring instrument. To improve the speed of response, the converter is designed in the form of a two-channel shaper of pulses which are shifted in time by the width of the first channel. The output of the second channel is connected to the trigger circuit of the hyperbolic pulse generator. The output of the second channel is connected to the input of the key circuit. The latter is connected to the circuit which connects the output of the hyperbolic pulse generator with the memory capacitor. The latter is connected to the input of the

Card 1/2

UDC: 621.317.761

ACC NR: AP6032493

output measuring instrument. Orig. art. has: 1 figure. [Translation]

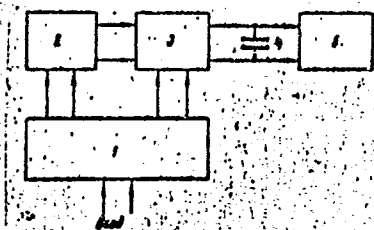


Fig. 1. Meter of electric pulse recurrence rate.

1—Pulse shaper; 2—generator; 3—key circuit; 4—capacitor; 5—measuring instrument

SUB CODE: 09/ SUBM DATE: 04Jun65/

Card 2/2

6-
ALANIS N. DE AF 1000

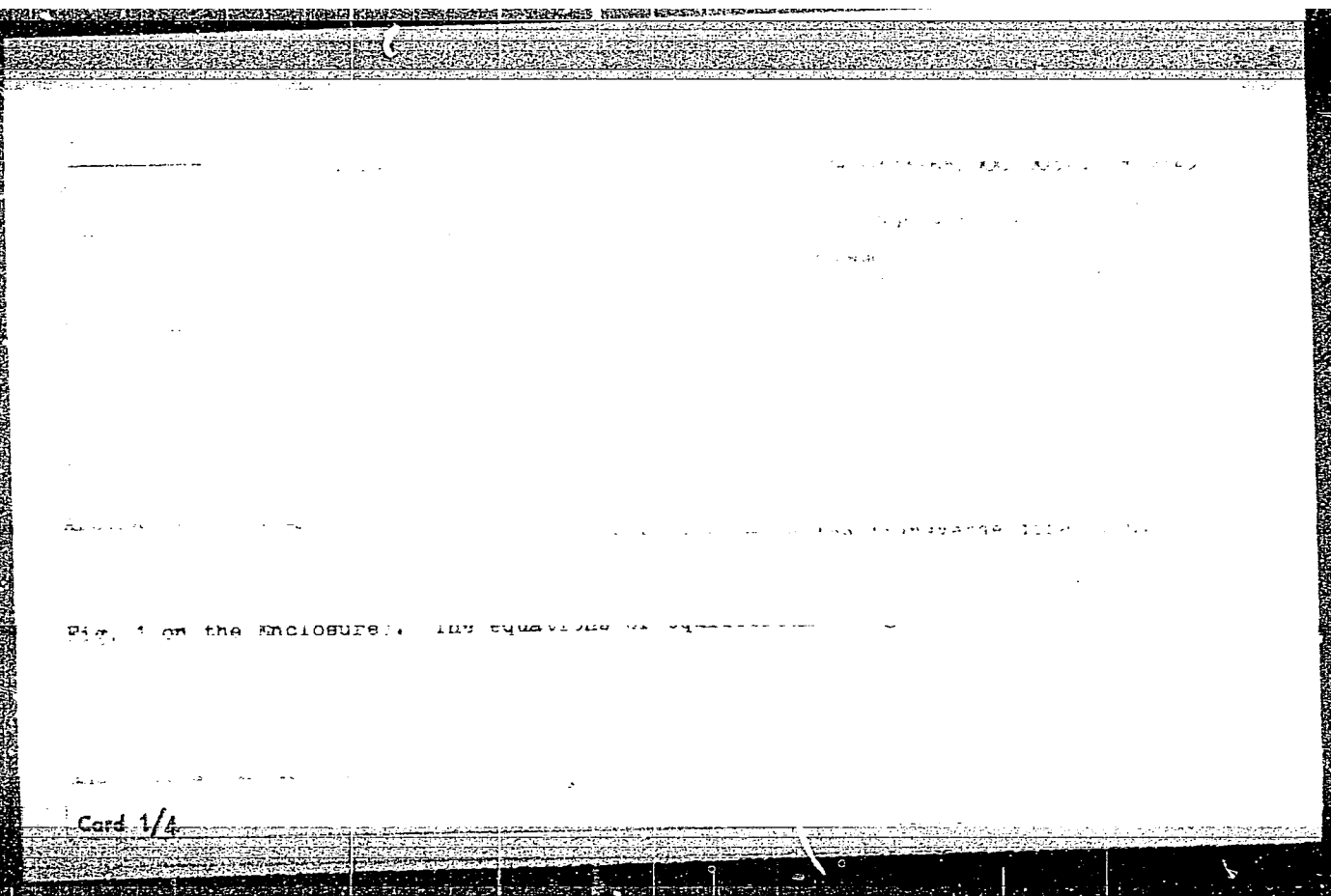
ASSOCIATION 1000

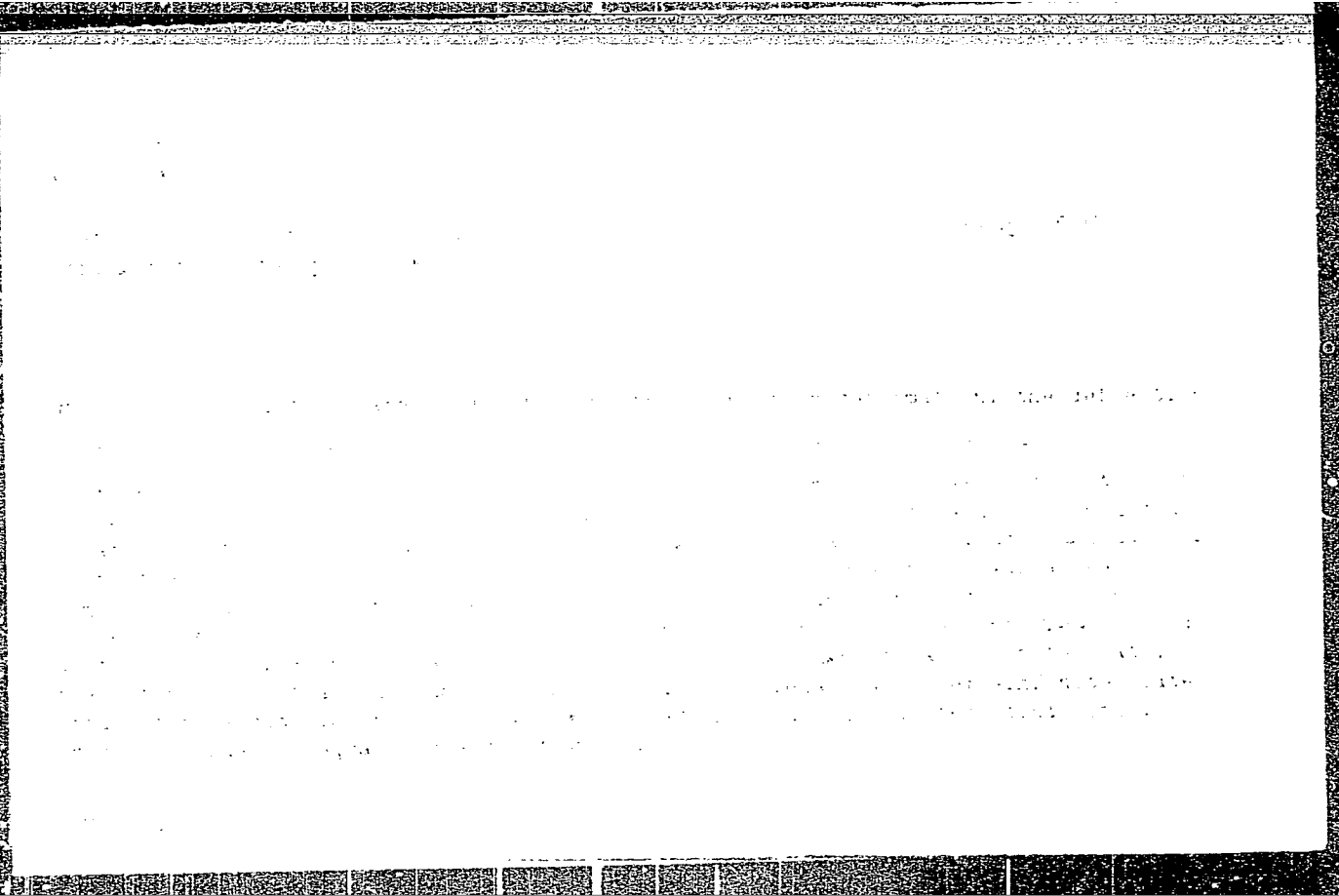
SUBMITTED 1000

1000 AS, MF

NO REF SOV: 005

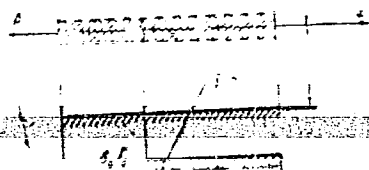
OTHER: 000





"APPROVED FOR RELEASE: 07/16/2001

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APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001756110005-5"

GRIGOLYUK, E.I. (Novosibirsk); TOLKACHEV, V.M. (Novosibirsk)

Contribution to the theory of a multilayer thermostat. Izv. SO
AN SSSR no.10:49-56 '63. (MIRA 17:11)

TOLKACHEV, V.M.

Transmission of a load from a stringer of finite length to
an infinite or semi-infinite plate. Dokl. AN SSSR 154 no.4:
806-808 F '64. (MIRA 17:3)

1. Predstavleno akademikom Yu.N. Rabotnovym.

SHURAKOV, F.V., kand. sel'khoz. nauk; MOSKALENKO, K.M., tekhnik;
MOSTOLOVITSA, K.Yu., tekhnik; IONOVA, M.A., kand. sel'khoz.
nauk; TOLKACHEV, V.P., nauchn. sotr.; ORLOV, G.K., tekhnik;
SOLOV'YEVA, T.F., tekhnik; ZHILYAKOVA, O., red.izd-va;
GLIKMAN, N., red. izd-va; ISUPOVA, N., tekhn. red.

[Catalog of fruit crop varieties of the All-Union Scientific
Research Institute of Plant Growing in the Crimea] Katalog
sortov plodovykh kul'tur Vsesoiuznogo nauchno-issledovatel'-
skogo instituta rastenievodstva v Krymu. Simferopol',
Krymizdat, 1960. 230 p. (MIRA 17:1)

1. Leningrad. Vsesoyuznyy institut rasteniyevodstva. Krym-
skiy pomologicheskii rassadnik.
(Crimea--Fruit--Varieties)

KRYLOV, Vladimir Ivanovich; TOLKACHEV, Vasilii Prokof'yevich;
SAZONOV, A.G., red.

[Automatic brakes] Avtomaticheskie tormoza. Moskva, Izd-
vo "Transport," 1964. 286 p. (MIRA 17:8)

POYDO, A. A., prof.; TOLKACHEV, V. P., inzh.; MURZIN, L. G.

Replies to the inquiries of our readers. Elek. i tepl. tiaga 6
no.9:41 S '62. (MIRA 15:10)

1. Nachal'nik otdela tepletekhnik Glavnogo upravleniya lokomo-
tivnogo khozyaystva Ministerstva putey soobshcheniya.

(Diesel locomotives)

YURCHENKO, I.F.; KHATSKELEVICH, M.N., inzh.; TOLKACHEV, V.P., inzh.;
KLIMOV, N.N., inzh.; MATVEYEV, P.M.; NOVIKOV, A.V., inzh.

Answers to readers' queries. Elek.i tepl.tiaga 6 no.2:44-45
F '62. (MIRA 15:2)

1. Nachal'nik upravleniya truda, zarabotnoy platy i tekhniki bezopasnosti Ministerstva putey soobshcheniya (for Yurchenko).
2. Direktor Vsesoyuznogo nauchno-issledovatel'skogo instituta zheleznodo-rozhnoy gigiyeny Glavnogo sanitarnogo upravleniya Ministerstva putey soobshcheniya (for Matveyev).
(Railroads)

YURCHENKO, I.F.; OKUNEV, P.F., starshiy mekhanik; TOLKACHEV, V.P., inzh.;
BYCHKOVSKIY, A.V., kand.tekhn.nauk; GORBATYUK, V.A., inzh.;
LAGUN, Ya.I., starshiy inzh.; SHALIMOV, V.S., inzh.; DANILOV,
V.I., inzh.

Replies to the inquiries of our readers. Elek. i tepl. tiaga
5 no.6:41-43 Je '61. (MIRA 14:10)

1. Nachal'nik Upravleniya truda, zarabotnoy platy i tekhniki
bezopasnosti Ministerstva putey soobshcheniya (for Yurchenko).
2. Otdeleniye avtotormoznogo khozyaystva Vsesoyuznogo nauchno-
issledovatel'skogo instituta zheleznodorozhnogo transporta Min-
isterstva putey soobshcheniya (for Okunev). 3. Otdel glavnogo
tekhnologa Perovskogo zavoda po remonty elektropodvizhnogo
sostava (for Lagun).

(Diesel locomotives)
(~~Rail~~roads--Rolling stock)

L 23970-66 EWT(m)/EWP(t) IJP(c) JD/WB/JH

ACC NR: AP6008624

SOURCE CODE: UR/0365/65/001/006/0677/0680

AUTHORS: Pustotina, S. R.; Tolkachev, V. Ye.; Rafalovich, D. M.; Roykh, I. L. . 48
B

ORG: Odessa Technological Institute im. M. V. Lomonosov (Odesskiy tekhnologicheskii institut)

TITLE: Oxidation of Mg, Zn, and Cd films formed by vacuum condensation in a humid atmosphere 18 27 27 27 18

SOURCE: Zashchita metallov, v. 1, no. 6, 1965, 677-680

TOPIC TAGS: protective coating, metal film, corrosion resistance, magnesium, zinc, cadmium, metal oxidation

ABSTRACT: Oxidation of Mg, Zn, and Cd vacuum condensates has been studied at various values of relative humidity. The information is of interest because the quality of the metallic films obtained by vacuum spraying is determined mainly by their atmospheric corrosion stability. The investigation was performed by gravimetric and polarized light methods, varying the relative humidity from 0 to 99%, at a temperature of 20C. The results of the study are summarized in Figs. 1 and 2. It was established that the increase of weight and the thickness of the oxidized layer are 4 and 2 times greater for Mg and Cd, respectively, than for Zn. At a relative humidity < 80% for Cd and Zn and < 70% for Mg, the protective oxide films are formed in 1 to 2 days of oxidation. The corrosion rate for all 3 condensates increases rapidly at relative

Card 1/2

UDC: 620.193.2

L 23870-66

ACC NR: AP6008624

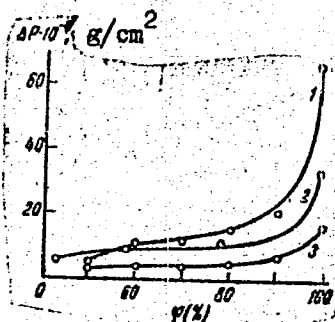


Fig. 1. Weight increase per unit of the surface of the condensate as a function of the relative humidity, during one week of oxidation: 1 - Mg, 2 - Cd, 3 - Zn.

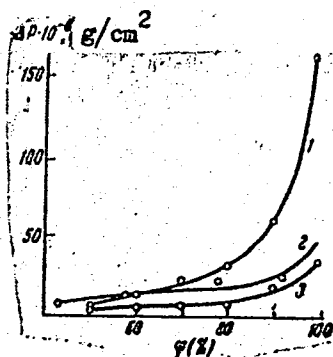


Fig. 2. Thickness of the oxide film formed during the one week of condensate oxidation, as a function of the relative humidity: 1 - Mg, 2 - Cd, 3 - Zn.

humidity, r , above 90%. At these values of r , a porous layer with a large surface area is formed on the metal. Orig. art. has: 5 figures.

SUB CODE: 07, 11/ SUBM DATE: 01Mar65/ ORIG REF: 003/ OTH REF: 010

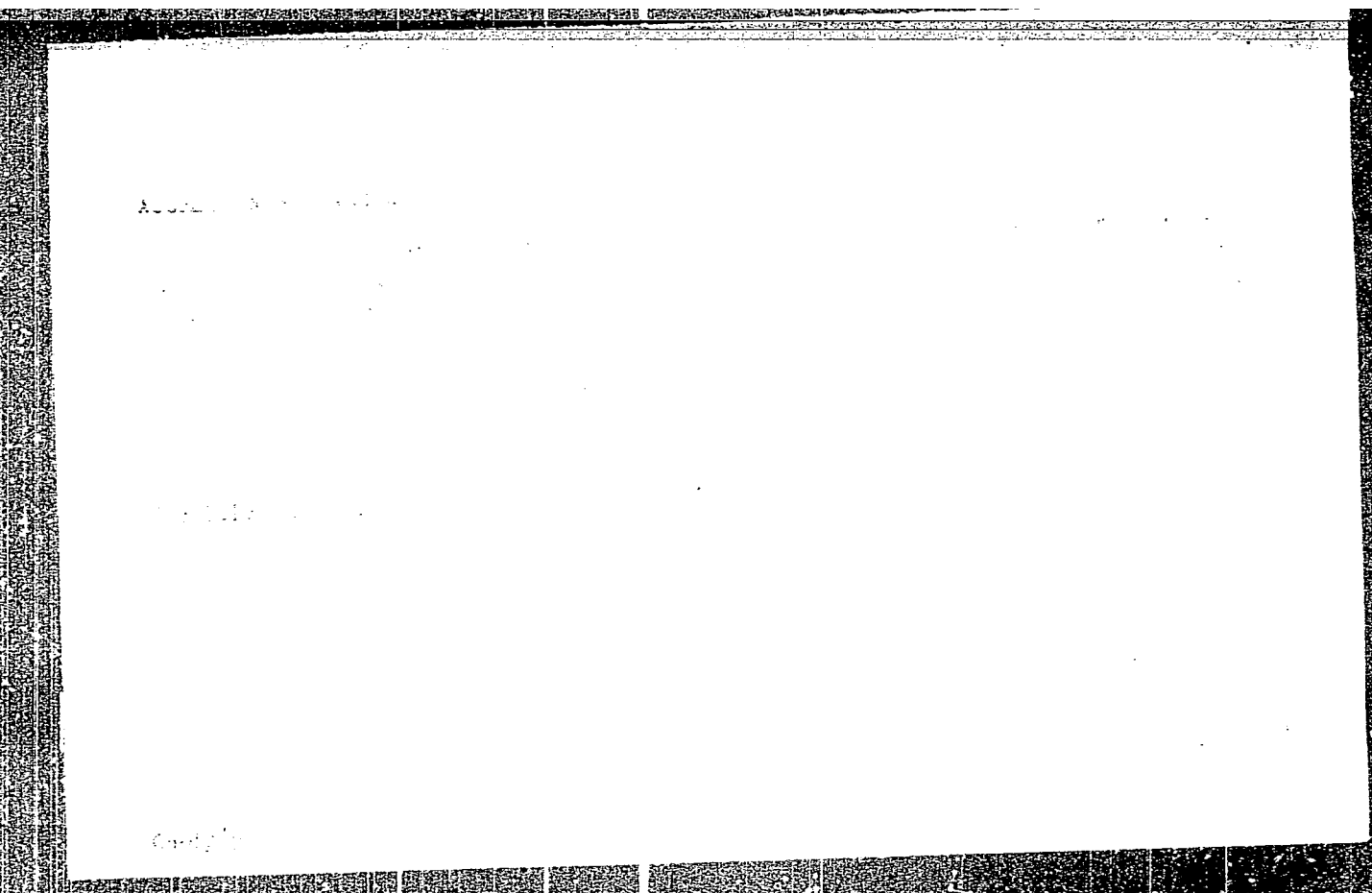
Card 2/2 ddo

¹ AUTHOR: Tolkachev, V. Yu.

during an hour, a shift, or a day and transmission of the biological clock. The parameters: 1) Integration at the transmitter, and 2) a continuous function up to

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APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001756110005-5"

PUSTOTINA, S.R.; TOLKACHEV, V.Ye.; KAYALOVICH, D.M.; ROYKH, I.I.

Oxidation of vapours Mg, Zn, and Cd condensates in a humid atmosphere. Zashch.met. 1 no.6:677-680 N.D. 1965.

(MIRA 12731)

1. Odesskiy tekhnologicheskii institut imeni M.V.Lomonosova.

TOLKACHEV, V.Yu.

Transmission of integral and averaged parameters in a centralized
automatic control system. Trudy MEI 52:181-192 '63.
(MIRA 18:9)

L 1648-66 ENT(d)/ENP(v)/ENP(k)/ENP(h)/ENP(l) IJP(c) BC

ACCESSION NR: AP5021634

UR/0286/65/000/013/0117/0117

AUTHORS: Tolkachev, V. Yu.; Yevtushenko, I. N.; Pelikh, Yu. V.; Vasil'yev, V. M.

TITLE: Device for remote-controlled transmission on measured parameters. 228
Class
74, No. 172659

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 13, 1965, 117

TOPIC TAGS: remote control, ¹⁴information readout

ABSTRACT: This Author Certificate presents a device for remote-controlled transmission of measured parameters. The device contains primary parameter detectors, an intermediate storage, pulse shapers, a synchronous-cophased readout system, a communication line, and a receiving unit with a synchronous-cophased readout and register system. To simplify the design of the intermediate storage, electrical (electrochemical) current integrators are used (see Fig. 1 on the Enclosure). The integrator inputs are connected to the primary measured parameter detectors, and the outputs are connected to the intermediate storage units. Orig. art. has: 1 diagram.

ASSOCIATION: none

Card 1/3

L 1648-66

ACCESSION NR: AP5021634

SUBMITTED: 21Nov62

ENCL: 01

SUB CODE: EC, DP

NO REF SOV: 000

OTHER: 000

Card 2/3

L 1648-66

ACCESSION NR: AP5021634

ENCLOSURE: 01

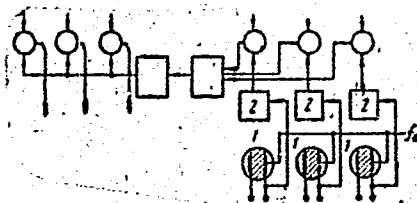


Fig. 1. 1- electrolytic (electrochemical)
current integrators; 2- intermediate
storage units

Card 3/3

SP

ACC NR: AP6035741 (A,N) SOURCE CODE: UP/0413/66/000/019/0103/0103

INVENTOR: Yevtushenko, I. N.: Tolkachev, V. Yu.: Guglin, I. N.: Privalov, L. N.

ORG: none

TITLE: Decoder of parallel bipolar binary code for remote control systems.
Class 42, No. 186769

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 19, 1966, 103

TOPIC TAGS: digital decoder, telemetry equipment, telemetry receiver, *BINARY CODE*,
MAGNETIC CORE.

ABSTRACT: A parallel bipolar binary code decoder which is based on magnetic cores and uses transistor/magnetic gating is described. Two-cycle transistor/magnetic gates have been added to control code reception in the decoder writing circuits. These are connected in series to the primary of a current control transformer; a code reception control unit is connected to the control transformer's secondary. Orig. art. has: 1 figure.

SUB CODE: 09/ SUBM DATE: 12Nov64/

Cord 1/1

UDC: 681.142:621.867:621.398

L 09333-67

ACC NR: AP6029523

SOURCE CODE: UR/0432/66/000/004/0059/0061

AUTHOR: Vasil'yov, V. M.; Yovtushenko, I. N.; Pelikh, Yu. V.; Privalov, L. N.;
Tolkachev, V. Yu. (Candidate of technical sciences)

55

ORG: None

TITLE: An arrangement for remote-controlled selection

SOURCE: Mekhanizatsiya i avtomatizatsiya upravleniya, no. 4, 1966, 59-61

TOPIC TAGS: computer circuit, computer control system, computer center, data processing,
signal coding, telemetry

ABSTRACT: A description of a telecontrolled selector system devised by the Zaporozhskiy Branch of the Institute of Automation is presented. It is designed for selection of sampled signals of telemetering and coding types. The system consists of a main control center connected by many communication lines to various branch centers as shown in a diagram. The branch decoding selectors are controlled from the center by means of binary codes. The collected data are transmitted from the branches through the intermediate storage to the central storage memory matrices. The central selector circuit composed of ferrite-diode elements is fed from a pulse source of 30 kc. The circuit arrangement is shown in a diagram including diodes, a dynamic flip-flop, a coincidence cell and a repeater. The control of gate pulses and their frequencies (rated at 468 cycles) is explained. The arrangement of the branch-center circuits is also diagrammatically illus-

Card 1/2

UDC: 621.398

L 09333-67

ACC NR: AP6029523

trated. The basic element of this circuit is a decoding selector of magnetic type. Being also equipped with ferrite diodes, memory storage cells and other elements the circuit has an output that can reach a number of 512. The processes of collecting and transmitting data by means of flip-flops and blocking oscillators are discussed. The main control center is connected by means of multichannel telephone cables to 16 branch centers. The total capacity of the system is rated at 2048 binary signals. The arrangement was successfully applied to industrial processes at the Zaporozhskiy Refractory Materials Plant. Orig. art. has: 3 diagrams.

SUB CODE: 09/ SUBM DATE: None/ ORIG REF: 004

Cord 2/2/m

L 06218-67 EWT(d)/EEG(k)-2

ACC NR: AP6029783

SOURCE CODE: UR/0119/66/000/008/0009/0010

AUTHOR: Yevtushenko, I. N. (Engineer); Pelikh, Yu. V. (Engineer); Skiba, V. A. (Engineer); Tolkachev, V. Yu. (Candidate of technical sciences) 45
B

ORG: none

TITLE: Use of the electrolytic integrator in multichannel telemetry systems ①
collecting statistical information

SOURCE: Priborostroyeniye, no. 8, 1966, 9-10

TOPIC TAGS: solion integrator, telemetry equipment, *PULSE INTEGRATOR*

ABSTRACT: The development of an integral pulsed converter at the Zaporozh'ye Branch, Institute of Automatics, is reported; the converter is designed with a solion integrator. The temperature-compensated converter (its principal circuit diagram shown) has these characteristics: integrator time constant, 100 msec; output-pulse current through 1 kohm, 12 ma; output-pulse duration, 100--200 msec; tolerable ambient temperature, 0--50C; basic error, 1%; temperature error, 0.2% per 10C. The converter is intended for collecting averaged values of various parameters, for storing analog signals, etc. Orig. art. has: 2 figures and 1 formula.

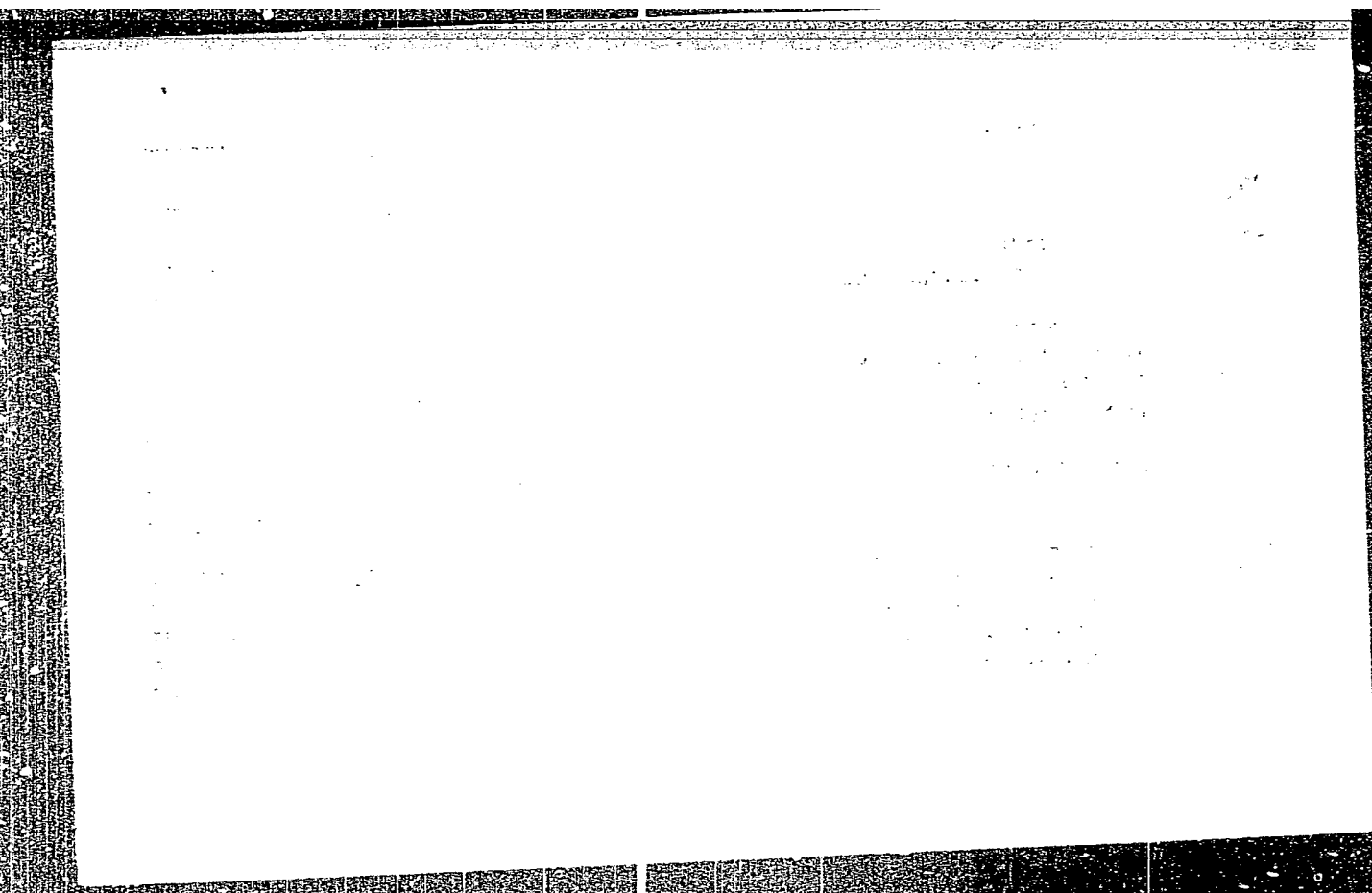
SUB CODE: 09 / SUBM DATE: none / ORIG REF: 003

Card 1/1 *LC*

UDC:621.3.082.75:621.3.083.722

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APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001756110005-5"

ACCESSION NR: AT5002944

LIKHAREV, B.B.; TOLKACHEV, Ya.P.

Mining and topographic work in prospecting. Trudy VITR no.4:178-191
'61. (MIRA 14:9)

(Prospecting)

TOLKACHEVA
SOSNOVIK, I.Ya.; KATSENELENBAUM, M.S.; LUK'YANOV, V.S.; PLAKKHIN, A.S.;
TOLKACHEVA, A.Ye.; CHUMAK, K.I.

Methods for organizing and carrying out complete dispensary services
for workers. Zdrav.Ros.Feder. 1 no.11:31-35 N '57. (MIRA 10:12)
(MEDICINE, INDUSTRIAL)

L 2791-66 EWT(m)/EWP(i)/T/EWP(t)/EWP(b)/EWA(c) LJP(c) JD

ACCESSION NR: AP5022246

UR/0363/65/001/007/1016/1020

546.289:548.55

40
35
8

AUTHOR: Dorfman, V. F.; Belokon', M. S.; Krasnova, G. F.; Tolkacheva, G. N.

TITLE: Effect of growth conditions on certain properties of epitaxial germanium layers

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 7, 1965, 1016-1020

TOPIC TAGS: epitaxial growing, germanium, crystal dislocation

ABSTRACT: This paper deals primarily with the morphological and structural characteristics of epitaxial germanium layers grown by the iodide process. The dislocation density and its distribution over the thickness of the layers are determined by etching with 8 pts. $K_3[Fe(CN)_6]$ + 12 pts. KOH + 100 pts. H_2O . As the temperature of the growing process rises, the role of homogeneous disproportionation of GeI_2 in the gas phase increases. As a result, the structure of the epitaxial layers changes, and in particular, stacking faults appear. A hypothesis is advanced concerning the general nature of stacking faults and trigonal growth pyramids on the (111) plane. A mechanism accounting for both of these formations

Card 1/2

L 2791-66

ACCESSION NR: AP5022246

is proposed. The morphology of epitaxial deposits is closely related to their internal structure. Smooth deposits are obtained by decreasing the dislocation density and increasing the uniformity of their distribution in the layers. "The authors thank K. A. Bol'shakov and I. P. Kislyakov for their helpful comments throughout the course of the study, A.M. Anisimova and T. B. Pleskacheva for assistance in the experiments, and V. G. Kholodova for taking photographs with the electron microscope." Orig. art. has: 7 figures.

ASSOCIATION: none

SUBMITTED: 18Feb65

ENCL: 00

SUB CODE: SS, IC

NO REF SOV: 005

OTHER: 004

BVR

Card 2/2

FURSEY, G.N.; TOLKACHEVA, I.D.

High densities of autoelectronic current and effects preceding vacuum
breakdown in Ta and Mo emitters. Radiotekh. i elektron. 8 no.7:
1210-1221 J1 '63. (MIRA 16:8)
(Cathodes)

L 11271-63

ENT(1)/BDS--AFFTC/ASD

ACCESSION NR: AF3003722

S/0109/63/008/007/1210/1221

AUTHOR: Fursey, G. N.; Tolkacheva, I. D.

TITLE: Large densities of autoelectric current and effects preceding vacuum breakdown for Ta. and Mo emitters

SOURCE: Radiotekhnika i elektronika, v. 8, no. 7, 1963, 1210-1221

TOPIC TAGS: field emission, large current density, space charge, vacuum arc, current density

ABSTRACT: A detailed investigation of autoelectric emission with emphasis on the process of spontaneous current variation in time and the appearance of rings on the emission image which precedes the vacuum arc has been carried out using pulse techniques on single-crystal Ta and Mo emitters at current densities of approximately 5×10^7 amp/cm². The point-shaped cathode was produced by etching for 2 to 3 min in a 50% HNO₃ and 20% HF solution. The degassing of Ta and Mo points was done by annealing for 1 to 3 hr at temperatures of 1500 to 1800K, followed by short-time heating at 2500K for Mo and 2800K for Ta. Measurements were made in sealed devices at residual gas pressures on the order of 10^{-9} mm Hg, and the results were compared to data obtained from analogous investigations on W single crystals. It was found

Card 1/2

L 11271-63

ACCESSION NR: AP3003722

that: 1) the processes preceding the vacuum arc in the cases of Ta and Mo are similar to those occurring in the case of tungsten; 2) as compared to tungsten, a greater number of rings is detected in the case of Ta; 3) for Ta, critical current densities are somewhat lower than for W, reaching 5×10^6 to 5×10^7 amp/cm²; 4) the occurrence of the phenomena preceding the vacuum arc is linked to a definite current density and emitter resistance to thermal decay; and 5) the space charge plays an essential role in the deviation of volt-ampere characteristics from linearity. "The authors thank I. L. Sokol'skaya, R. I. Garber, V. N. Shrednik, I. G. Kasayev, Kh. A. Noyman, and A. I. Klimin for their advice." Orig. art. has: 11 figures.

ASSOCIATION: none

SUBMITTED: 02Jul62

DATE ACQ: 02Aug63

ENCL: 00

SUB CODE: PH

NO REF SOV: 011

OTHER: 009

nh/64
Card 2/2

TSAP, M.L.; TOLKACHEVA, L.A.

Applying spectrum analysis in investigating soil extracts and solutions. Pochvovedenie no.1:87-94 Ja '61. (MIRA 14:1)

1. Ukrainskiy nauchno-issledovatel'skiy institut zemledeliya.
(Soils--Analysis) (Spectrum analysis)

SPASSKIY, A.A.; TOLKACHEVA, L.M.

Anserilepis nov. gen. (Cyclophyllidae, Hymenolepididae) a
new genus of cestodes from anserines. Trudy Ool'm. lab.
15:151-155 '65
(MIRA 19:1)

TOLKACHEVA, L.M.

Microsomacanthus Spasskii nov. sp. (Cyclophyllidea, Hymenolepididae), a new nematode from anserines. Trudy Gel'm. lab.
15:167-171 '65 (MIRA 19:1)

PUSHKIN, P.S.; TOLKACHEVA, L.P.; CHEMBAROV, M.I.

Production cost norms are the index of the volume of production and
labor productivity in artificial leather factories. Kozh.-obuv.prom.
5 no.3:8-11 Mr '63. (MIRA 16:3)
(Artificial leather) (Productivity accounting)

TOLKACHEVA, M.M.; KARPOVA, N.L., red.; BOHROVA, Ye.N., tekhn.red.

[Organization of the work of locomotive crews] Organizatsiia truda lokomotivnykh brigad. Moskva, Vses. izd-ko-poligr.ob"edinenie n-va putei soob., 1960. 109 p. (Moscow. Vsesoiuznyi nauchno-issledovatel'skii institut zheleznodorozhnogo transporta. Trudy, no.197).

(MIRA 13:11)

(Locomotives)

(Railroads--Freight)

TOLKACHEVA, M.M.; KIRSANOVSKIY, O.M.; PROTOPOPOVA, T.A.; MISHINA, T.I.;
KOCHKINA, L.I.; MEDVETSKAYA, Z.A.

Consolidated standards for routine locomotive maintenance.
Zhel.dor.transp. 41 no.11:29-31 N '59. (MIRA 13:2)
(Locomotives--Maintenance and repair)

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSING AND PREPARATION INDEX																																																			
<p><i>ca</i></p> <p>A finding of veins of native As near Gutay Village of the Chita district. N. Tolstachevskaya. <i>Compt. rend. acad. sci. U. R. S. S. 30, 832-3 (1941) (in English).</i>—Two veins of native As, with average thickness 6-7 cm., max. thickness 17 cm., occur in amphibolites that are part of the metamorphic complex of the Chikoy Mo deposit. Spectrochem. study showed strong lines of As and Sb, some Cu and Ca, traces of Al, Cr, Mg, Si and Fe. Michael Fleischer</p>																																																			
<p>ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			
<p>GROUPS: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52</p>																																																			

TOLKACHEVA, N.I.; SEREBRYAKOVA, L.N.

Two cases of intravital diagnosis of interventricular septum
rupture following myocardial infarct. Kaz.med.zhur. no.2:70-71
Mr-Ap'63 (MIRA 16:11)

1. Terapevticheskoye otdeleniye (zav. - Z.D.Valyugina) Respub-
likanskoy bol'nitsy (glavnyy vrach - V.G.Mirskov) Mordovskoy
ASSR, g. Saransk.

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S/514/61/CCO/005/001/014
1007/1207

AUTHORS:

D'yachenko, P.Ye., Oshchepkov, P.A., Tolkacheva, N.N., Andreyev, G.A.,
Ginadov, V.A., Goryunov, A.N., and Dubova, L.N.

TITLE:

On the hardening of metal surface layers by irradiation

SOURCE:

Akademiya nauk SSSR. Komissiya po tekhnologii mashinostroyeniya.
Seminar po kachestvu poverkhnosti. Trudy. no. 5, 1961. Kachestvo
poverkhnosti detaley mashin; metody i pribory, uprochneniye
metallov, tekhnologiya mashinostroyeniya, 27-31

TEXT:

The thermal effect of nuclear irradiation in the surface layers of
metals was investigated after electronic, ionic and deuteron irradiation. The
equipment consisted of a voltage-pulse generator, electron gun and a vacuum unit.
Considerable increase in the wear resistance of metals resulted from the levelling of
micro-irregularities, fusion of micro-cracks and the sudden quenching of the surface
layer. In a second test, ionic irradiation was achieved in a unit for the electromag-
netic separation of isotopes by irradiation with titanium ions. The titanium diffused
into the surface of the specimens to a depth of 110 microns and wear resistance
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1001/1207

On the hardening of metal...

increased by as much as 10 times compared to the initial resistance. Microhardness increased by as much as 1.5 times. Deuteron irradiation was performed in a cyclotron and resulted in an increase of microhardness by a factor of 2-3, and of wear resistance by a factor of 2-2.5. There are 4 figures.

B

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D¹ LACHENKO, P.Ye.; OSHCHEPKOV, P.K.; TOLKACHEVA, N.N.; ANDREYEV, G.A.;
CHUDOV, V.A.; GORYUNOV, K.N.; DUBOVA, L.N.

Using irradiation procedures for surface hardening of metals.
Trudy Sem.po kach.poverkh. no.5:27-31 '61. (MIRA 15:10)
(Surface hardening)
(Materials, Effect of radiation on)

D'YACHENKO, Petr Yefimovich, doktor tekhn.nauk, prof.; TOLKACHEVA,
Nina Nikolayevna; ANDREYEV, Gavriil Alekseyevich; KARPOVA,
Tamara Mikhaylovna; BANKVITSER, A.L., red.izd-va; GOLUB', S.P.,
tekhn. red.

[Area of actual contact of mating surfaces] Ploshchad' fakti-
cheskogo kontakta sopriazhennykh poverkhnostei. Moskva, Izd-vo
Akad. nauk SSSR, 1963. 94 p. (MIRA 16:6)
(Surfaces (Technology))

SOV/137-57-11-22637

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 11, p 287 (USSR)

AUTHOR: Tolkacheva, N. N.

TITLE: Signalization of the Approach of an a Priori Specified Amount of Wear (Signalizatsiya o nastuplenii zaranye zadannogo po velichine iznosa)

PERIODICAL: V sb.: Isuch. iznosa detaley mashin pri pomoshchi radio-aktivn. izotopov, Moscow, AN SSSR, 1957, pp 68-75

ABSTRACT: Certain methods of activation were investigated to establish the feasibility of a signalization of the approach of the wearing out of a layer of a priori specified thickness. The tests were carried out on an MI-type friction machine with standard-size specimens. The inserts or the block are activated. The roller was prepared of 45-grade steel and was sandpapered after grinding. For each test a fresh 250-cc batch of transformer oil was introduced which was pumped through at the rate of 5 l/min. The count of the impulses was carried out by a block of three AMM-4 meters connected in parallel. The number of impulses was recorded by a mechanical counter.

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A number of tests was duplicated with a recording of the

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Signalization of the Approach of an a Priori Specified Amount of Wear

impulses on the tape of a 4-loop N-10 type oscillograph. Compounds of Zn^{65} or Co^{60} were used as radioactive isotopes in the activation methods examined. It is established that an electrolytically applied under coat of a specific activity is the most practical for signaling the wearing out of a coating. In a number of cases the use of inserts placed at a specified distance below the friction surface is recommended. A screw insert can be used which is prepared from the machine-part material and has on its end surface a two layer coating (the undercoat being of the active metal while the upper layer equal in size to the previously specified wear is of inactive metal). It is pointed out that the fitting of such a screw insert on the same level with the friction surface presents no technical difficulties.

L. G.

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SOV/137-57-10-20495

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 10, p 301 (USSR)

AUTHORS: D'yachenko, P. Ye., Tolkacheva, N. N., Goryunov, K. N.

TITLE: Determination of the Area of Actual Contact Between Surfaces
(Opredeleniye ploshchadi fakticheskogo kontakta poverkhnostey)

PERIODICAL: V sb.: Izuch. iznosa detaley mashin pri pomoshchi radioaktivn.
izotopov. Moscow, AN SSSR, 1957, pp 111-123

ABSTRACT: A description of the employment of a radioactive-isotope method for the determination of the area of actual contact between two rough metallic surfaces (S). One of the contact S was activated by the application of a thin coating of a solution of Na sulfate (S^{35}) or of Zn chloride containing Zn^{65} , and by means of electrolysis. The S of the specimens were pressed together on a special device under a load of 0.5 - 25 kg for 30 sec; during this time metal particles were transferred from the activated S onto the nonactivated one. The presence of the isotope on the nonactivated S was established by a counter and its distribution on the S was determined by means of autoradiography by a method developed at the LAFOKI

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(Laboratory of Scientific and Applied Photography and

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Determination of the Area of Actual Contact Between Surfaces

Cinematography, Academy of Sciences, USSR). The actual area of contact was determined according to the autoradiograph by means of calibration by the optical-mechanical method. For this purpose the deformation (D) of the metal which resulted from pressing together of the two specimens was separated into its elastic and plastic portions. The separation of the D was accomplished on a Levin IZP-5 type profilograph equipped with a special loading device. In plotting the D-load curves, a recording was made with 9800x magnification. 25x45x8 mm plates of untempered 15 and 45-grade steels with the roughness of the S of the first and fourth class of finish and an H_B of 127 - 174 were used as lower specimens in the experiments. The upper specimens were prepared in the form of cylinders with a base area of 1 cm² and a height of 15 mm. The end surfaces of the upper specimens were polished to the 12th class of smoothness of finish and had an H_B of 205. The longitudinal roughness was impressed on celluloid molds from the surface of the metal. The variation in the area of the bearing S in relation to the distance up to the line of the depressions in the microprofile was calculated on the basis of the curves of the bearing S for both the lateral and the longitudinal roughness (of the profile graphs). A description is given for the calculation of the plastic and the elastic D according to the recorded graphs. It is established that for a specimen of steel of a given grade an increase in the

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Determination of the Area of Actual Contact Between Surfaces

class of smoothness of finish causes a considerable decrease in the plastic D , while the variation in the total D is insignificant. An increase in the H_B of steel results in a decrease of the magnitude of the total and the plastic D . It is shown that upon loading D occurs not only in the peaks of the protuberances of the lower plate but also in the contact S of the upper specimen which possesses a higher H_B .

L. G.

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